

Stormwater Discharge Requirements for Airports

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NORTH DAKOTA
DEPARTMENT *of* HEALTH



Stormwater?

- Rain water runoff, snowmelt runoff, surface runoff and drainage
- Water flow resulting from precipitation and which occurs following rainfall or resulting from snowmelt
 - Only some stormwater sources are regulated



Stormwater Regulated Under Federal Clean Water Act

- National Pollutant Discharge Elimination System (NPDES) *CWA, Sec. 402*
 - Requires Permits for:
 - Process wastewater discharges
 - Industrial and Municipal stormwater sources
- Water Quality Standards *CWA, Sec. 303*
 - Listing of Impaired Waters
 - Total Maximum Daily Loads (TMDLs)

State Authority

- ND Dept. of Health is responsible for operating CWA programs in the state
 - Delegation agreement with US EPA
 - Equivalent state laws and rules regarding water quality protection (NDCC 61-28, NDAC 33-16)
 - Issue NPDES permits within state
 - EPA retains program over-site

Stormwater Rule – Phase I

- Permits Required beginning in 1992
 - Industrial Activities (11 categories described)
 - Construction sites with land disturbance of 5 acres and greater
 - Large and Medium city storm sewer systems
 - Municipalities > 100,000
 - Referred to as MS4s (Municipal Separate Storm Sewer Systems)



Stormwater Rule – Phase II

- Established March 2003 permit deadline for:
 - Construction involving 1 to 5 acres
 - Small City storm sewers (Small MS4s)
 - Municipalities < 100,000
 - Regulated by rule or designated by criteria
 - Requires Stormwater Management program to reduce impacts from storm drain systems
 - North Dakota MS4s
 - *Grand Forks, Fargo/West Fargo, Bismarck/Mandan/Lincoln*
 - *UND, NDSU, BSC, NDDOT*
 - *Minot, Jamestown, Dickinson, Williston*
 - *Burleigh, Morton, Cass, and Grand Forks County*

“Stormwater Associated with Industrial Activity”

- Stormwater discharges from airports (based on facility's primary Standard Industrial Classification [SIC] code)
 - “Transportation facilities classified under Standard Industrial Classifications...45 (Transportation by Air)...which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations,...are associated with industrial activity.”
 - Also includes facilities that house any of the other industrial categories

Regulated Industrial Facilities Have Two Options

1. Obtain coverage under the industrial general permit, NDR05-0000;
 - Submit a notice of intent
 - Develop and implement a Stormwater Pollution Prevention Plan
 - Conduct site inspections
 - Maintain BMPs;Or...
 2. Claim “No Exposure”



No Exposure Certification

- “No Exposure” means that all industrial materials or activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff.
- Those wishing to be exempt from permit coverage must submit a No Exposure Certification Form to the NDDoH



No Exposure Certification

In order to claim no exposure, the following cannot be exposed to precipitation now or in the foreseeable future.

1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to stormwater
2. Materials or residuals on the ground or in stormwater inlets from spills/leaks
3. Materials or products from past industrial activity
4. Material handling equipment (except adequately maintained vehicles)
5. Materials or products during loading/unloading or transporting activities

No Exposure Certification

6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger
9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])
10. Application or disposal of process wastewater (unless otherwise permitted)
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow

Industrial General Permit

- NDR05-0000: Authorization to Discharge Stormwater from Industrial Activity
 - Basically the rules
- Best management practices (BMPs) to minimize exposure of industrial activities to stormwater
- Stormwater Pollution Prevention Plan (SWPPP)
- Keep Site Inspection Records
- Keep Maintenance Records

Permit No:	NDR05-0000
Effective Date:	April 1, 2010
Expiration Date:	March 31, 2015

DRAFT

AUTHORIZATION TO DISCHARGE UNDER THE
NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code, facilities both qualifying for and satisfying the requirements identified in Part I of this permit are authorized to discharge stormwater associated with **industrial activity** to waters of the state

in accordance with conditions set forth in this permit.

This permit and the authorization to discharge shall expire at midnight, March 31, 2015.

Signed this _____ day of _____, _____

Dennis R. Fewless, Director
Division of Water Quality

BP 2008.10.08

Industrial General Permit

- This general permit expires March 31, 2010
- A draft of the proposed permit was public noticed January 15 through February 15, 2010
- No significant changes to the permit were proposed
- Once the permit is issued (April 1, 2010) you have 180 days to update your SWPPP

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SWPPP

- Stormwater Pollution Prevention Plan
- Plan requirements may be found in Part II.C of NDR05-0000
- Required for all facilities covered under the general permit
- The objectives are to identify potential sources of stormwater pollution from industrial activity and ensure practices are implemented to minimize stormwater pollution
- Stormwater management measures developed under other regulatory programs (e.g., Spill Prevention, Control, and Countermeasure [SPCC] plans) may be included or referenced

SWPPP

- Site Description and Description of Activity
- Potential Pollutant Sources
- Stormwater Controls
 - Good Housekeeping
 - Preventative Maintenance
 - Spill Prevention and Response
 - Employee Training
 - Sediment and Erosion Controls
 - Minimize exposure of industrial materials and activities
 - Stormwater Management
- Maintenance
- Inspections
- Plan Review and Revisions



SWPPP

All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for the site situation.

You may deviate from the manufacturer's specifications if you provide justification for the deviation and document the rationale for the deviation in the SWPPP.

SWPPP

- Additional Terms and Conditions
 - All salt storage piles used for deicing or other industrial or commercial purposes shall be enclosed or covered to prevent exposure to precipitation
- Piles do not need to be covered or enclosed when adding or taking materials from the pile and when runoff from the pile is contained on-site



SWPPP

- Additional Terms and Conditions
 - Bulk storage structures for petroleum products and other chemicals shall have adequate leak and spill protection
 - Stormwater controls are expected to withstand and function during a 2 year, 24 hour storm event.
 - Eastern ND \approx 2.3 inches
 - Western ND \approx 1.9 inches



SWPPP

- Additional Terms and Conditions

- Dewatering or basin draining must be managed with the appropriate BMPs

The draining activities cannot adversely affect receiving waters or downstream landowners

Must operate the discharge to minimize the release of sediment and provide energy dissipation measures to protect the outlet from erosion

Limited to stormwater, small amounts of ground water, and allowable non-stormwater discharges

- Discharges must comply with local requirements, policies or guidelines. In particular, the MS4 communities (Fargo, Bismarck, Minot, etc.)

Self-Inspection Requirements

- A comprehensive inspection must be conducted at least once during a six month period. The six month period shall be the first half of the year and second half of the year
- At least one inspection should be conducted within 48 hours of a rainfall or snowmelt event resulting in a stormwater discharge
- Personnel conducting inspections must be familiar with permit conditions and the proper installation and operation of control measures

Self-Inspection Requirements

- Discharge outlets from the following areas must be inspected for evidence of, or the potential for, pollutants entering stormwater:
 - Areas used for industrial activities
 - Areas used for storage of materials
 - Structural control measures
 - Vehicle maintenance areas



Self-Inspection Requirements

- You must summarize the scope of the inspection, major observations relating to the plan and corrective actions taken
- Inspection records must include:
 - Date and time of the inspection
 - Name of the person(s) conducting the inspection
 - Findings, major observations, condition of controls, deficiencies noted and recommendations for corrective actions
 - Corrective actions taken (**Including:** Dates, times and party completing maintenance activities)
 - Documentation that the SWPPP has been amended when substantial changes occur

Sampling Requirements

- Large air transportation facilities (regional and primary commercial airports, and air force bases) are required to sample stormwater runoff
- Regional airports are required to sample once per year (preferably during the deicing season)
 - Devils Lake, Dickinson, Jamestown, and Williston
- Primary airports and air bases must sample monthly during deicing activities. If a discharge sample cannot be collected then you must report “No Discharge” for that month
 - Bismarck, Fargo, Grand Forks, Minot, Grand Forks AFB, and Minot AFB

Sampling Requirements

- The following parameters and benchmarks apply to stormwater discharges from airports
 - pH.....6.0 – 9.0 S.U.
 - *Ammonia as N.....15.0 mg/L
 - Nitrates as Nitrogen.....0.68 mg/L
 - 5-Day BOD (Biochemical Oxygen Demand).....30 mg/L
 - COD (Chemical Oxygen Demand).....120 mg/L

*Ammonia is pH dependent; value given is based on a pH of 8.0 S.U. TKN values obtained under prior permits may be considered in place of ammonia for sample waivers under Item 9 of Appendix 2.

Sampling Requirements

- Benchmark concentrations do not represent an effluent limitation or state water quality standard. They are used to determine if the SWPPP is effective.
- Concentrations above the benchmark represent a potential water quality concern and the need to improve the SWPPP.



Sampling Requirements

- Sample results must be reported on discharge monitoring reports (DMRs) and submitted annually to the NDDoH
- The reporting period for regional airports is January 1 through December 31, due January 31
- The reporting period for primary commercial airports and air force bases is June 1 through May 31, due June 30



Termination of Coverage

- Coverage under the industrial general permit may be terminated when one of following exists:
 1. No Exposure. The facility meets the no exposure criteria and a no exposure certification form has been submitted to the NDDoH
 2. Elimination of Sources. All sources of stormwater discharges associated with industrial activity have been eliminated (i.e., plant closure, ceasing industrial activity, removing equipment or storage, etc.)



Effluent Limitations

- Under the proposed permit, the quality of stormwater discharges shall reflect the best which is attainable through the proper implementation of all items in the SWPPP
- EPA has proposed effluent standards for primary commercial airports
- The rule applies to deicing operations from primary airports with at least 1,000 annual scheduled commercial air carrier jet departures
- If you have 10,000 or more departures, you will have to recover some of the deicing fluid – 20 to 60 percent depending on amount of fluid used (typically 460,000 gallons)
- The public comment period on the proposed rule ended February 26, 2010
- Further information may be found at epa.gov/waterscience/guide/airport/index.html

Questions?

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